



City of Marysville:

Dave Ostergaard
Community Development Department
80 Columbia Avenue
Marysville, WA 98270

(360) 651-5100
dostergaard@ci.marysville.wa.us

Scope of Assistance:

The kickoff meeting with City of Marysville staff occurred on July 7, 2005. At that meeting, City staff directed the consultant team on the content of the desired technical assistance. The following are the areas of emphasis that staff directed the team to pursue:

- A new LID section
- Review existing code for conflicts with implementation of LID
- Create a flow chart/checklist for projects to qualify as LID
- Recommend amendments to specific code sections that may preclude application of LID
- Review street standards and recommend LID options
- Provide options for application in the downtown
- Provide a list of potential LID incentives
- Provide matrix of existing and proposed roadway standards to share among participating jurisdictions

Initial recommendations were discussed at a follow-up meeting on November 28, 2005. Subsequent to the second meeting, staff confirmed the general direction of recommendations and requested several modifications. Comments addressed minor adjustments and a request to draft a new chapter for regulation of LID projects.

The review focused on code provisions that currently may preclude or create impediments to the implementation of LID and opportunities to include LID techniques within the code framework. Based on this review, the consultant team updated the appropriate code sections. An outline of these changes is presented below in a topical manner with the full text of the updates attached separately.

1. Title 12 – Streets and Sidewalks

The current Chapter 12.02A, Street Department Code, is intended to protect conventional drainage facilities from the impacts of construction in the adjacent right-of-way. Additional language has been added so that LID roadside bioretention facilities must be restored if impacts such as siltation occur. Additional changes are recommended to allow relief from the curb, gutter, and underground drainage requirements.

2. Title 14 – Water and Sewers

The consultant team prepared an update to the BMP definition in Chapter 14.15, On-Site Storm Water Drainage Code, to make it more consistent with the current DOE definition. Additionally, recommendations included definitions for bioretention and the LID Technical Guidance Manual. The Guidance Manual is incorporated as a reference document to provide standards and credits for the use of LID BMPs in proposed new section 14.15.061.

Preservation or recreation of the water-holding capacity of native soils is one of the basic LID techniques. Preserved or amended soils provide benefits in water retention, healthier plants, and lower irrigation

needs than standard development practices of 3 to 4 inches of imported top soil over compacted underlying soils. For these reasons, soil preservation or amendments are recommended as a general practice for all development.

Additional changes to Chapter 14.16 and 14.17 included minor changes allowing shared maintenance and a waiver of the connection requirements for LID facilities. In addition, the consultant team developed two alternatives, one specific and one general, to address maintenance of bioretention areas.

3. Title 19 – Zoning

The definition of “impervious surface” has become less clear with the advent of LID techniques. The exemptions to restrictions on impervious surface coverage in Chapter 19.06, Technical Terms and Land Use Definitions, should be explicit. The City may wish to provide partial credit for some techniques to limit the conversion of vegetated area to pervious pavement systems.

In Chapter 19.12, Development Standards – Density and Dimensions, the allowance for small lot sizes relative to density in the existing code is helpful in encouraging clustering in the R-4.5 and R-6.5 zones. To further this, the consultant team recommends a reduction in the lot widths for these zones. If the City's intent is to require a more conservative approach to development, consistent with LID, the maximum impervious surface allowed for the residential zones could be reduced. In some cases, e.g., higher density multi-family, this may require that pervious paving systems or other LID practices be used.

At the initial meeting, staff expressed a concern that Chapter 19.16, Development Standards – Landscaping, requires an insufficient number of trees to be preserved on development sites. To remedy this, the consultant team recommends an increase in the benefit threshold. In addition, a five foot minimum island dimension is recommended for consistency with the Administrative Landscaping Guidelines.

Multiple uses within landscaped areas may provide additional LID benefits while limiting additional land requirements. Code changes are proposed to encourage the use of interior parking lot landscaping as bioretention swales and greater tree cover in addition to landscape areas that provide water holding potential.

Staff requested that a review of the City's multi-family parking standards in Chapter 19.18, Development Standards – Parking and Circulation. In general, the consultant team avoided recommendations on parking standards. Such standards may address a variety of City concerns and priorities beyond the scope of LID. However, our research indicates that the City's 1.5 parking spaces per unit is an intermediate standard relative to other jurisdictions. A full table of parking uses throughout jurisdictions has been prepared as part of the PSAT LID package. In addition to encouraging the use of bioretention in parking area landscaping, other actions the City could pursue to reduce the stormwater impacts of parking include:

- Establishing a maximum parking standard in addition to the minimum and requiring pervious pavement for all parking over the maximum.
- Further limiting maximum impervious area on development sites to require the use of pervious pavement or shared or structured parking.

Since dispersion is a critical LID tool, the consultant team recommends that dispersion facilities as allowed in the outer buffers of wetlands and streams in Chapter 19.24, Critical Areas Management.

Compaction of undisturbed soils interferes with infiltration. The proposed amendment updates Chapter 19.28; Clearing, Grading, Filling, and Erosion Control; to encourage greater precision in site preparation. The consultant team understands that the City may wish to require LID in certain areas. This will require identification of subject areas and criteria to set a minimum threshold for what constitutes LID projects through the overlay zones in Chapter 19.46, Special Districts and Overlay Zones.

4. Title 20 - Subdivisions

Discussions with staff about LID implementation should occur early in the developer's application, no later than the pre-application conference. Information on site characteristics, primarily geology and hydrology, and proposed LID BMPs should be discussed prior to detailed site planning. This has been incorporated into Chapter 20.12, Preliminary Subdivision Review.

The proposed language for Chapter 20.24, Land Division Requirements, includes minor adjustments to give the City more control over the placement of trees, to reduce impervious surfaces through loop roads, to encourage LID, and to allow for a waiver of the curb and gutter standards.

5. STREET STANDARDS REVIEW

After review of the Marysville street standards, a variety of options were presented to provide additional LID friendly techniques. Briefly, these recommendations include the integration of bioretention areas, reduction in pavement widths, addition of loop roads, and sidewalk reductions.

6. DOWNTOWN LID

The intent of LID is to allow natural hydrologic processes to work. In the context of a downtown, these processes are significantly constrained due to the high percentage of impervious surfaces and intensity of land use. However, even in the downtown setting, there are applicable techniques that will reduce detention requirements such as green roofs, cisterns, parking area bioretention, tree box filters, and pervious pavement systems.

7. LID ORDINANCE

The consultant team developed a LID Ordinance as draft Chapter 19.49 that may be adopted to assist the City in implementing a low impact development.

Findings and Observations:

The road-width issue was a point of concern with Marysville staff. Since public safety concerns are often a common point of concern for fire protection agencies, it would be helpful to arm LID proponents with traffic engineering studies or comparative safety analyses to overcome the concerns about narrow roads. Although the consultant team conducted some limited research into such documentation as part of this project, but were unable to find generally applicable standards. Additional research is recommended.